Expectations vs. reality:
Retention challenges and strategies for U.S. state and local government digital services teams

Makayla Hipke

Applied Research Problem

Submitted to the Master of Public Administration program

The University of North Carolina at Chapel Hill

Spring 2025

Executive summary

To achieve urgent technology modernization goals, governments must attract and retain sought-after technical talent (Lerner 2021; Mergel 2017). This applied research examines retention of highly skilled tech talent on state and local government digital services teams. It focuses on two central research questions. First, what are the most commonly referenced challenges for retention of highly skilled tech talent in local and state government digital services? And, what are the most commonly referenced strategies to retain highly skilled tech talent in local and state government digital services?

Literature on the human resources management process establishes a link between retention, person–job fit, and person–organization fit (Boon et al. 2011). Organizations can strengthen retention with strategies focused on workplace climate, leadership practices, and fit (Grotto et al. 2017). Special considerations may be necessary for digital talent, who join the sector seeking meaningful, challenging, and autonomous work (Mergel 2017; Coombs 2009).

This research design uses semi-structured qualitative interviews with digital services leaders and subject-matter experts (n=13) to identify the most commonly referenced challenges and strategies for retention of technical talent on teams. Core challenges identified by respondents focus on the human resources management process—including job classifications, growth pathways, compensation, and a lack of HR support—and burnout. To combat these challenges, leaders describe strategies including non-traditional growth opportunities, intentional leadership practices, cultivating organizational champions, and providing visibility of work impact. The recommendations for managers and for team leaders include building appropriate job classifications for technical talent; embracing flexible and collaborative approaches to HR; and providing employees with autonomous, challenging, and meaningful work.

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Introduction

Despite the prevalence of technology in the modern workplace, U.S. governments of all sizes struggle to build, buy, and sustain tech projects (Lerner 2020). Government technology capacity and expertise lag behind private sector counterparts, and budgets are largely directed toward maintenance of outdated legacy systems (Mergel 2017). To combat these challenges, some governments are taking transformative approaches that move beyond the traditional scope of information technology (IT) departments. Digital transformation in the public sector is a continuous effort to recast processes, policies, and service delivery using technology and design best practices. It is a whole-organization approach that seeks to center real user needs, expand the government's user base, and find new ways to deliver core services (Mergel et al. 2019). To take on the work of digital transformation, governments are increasingly turning to digital services teams (DSTs). DSTs draw on the civic technology movement, which seeks to bring best practices from private sector tech into public services and organizations (Harrell 2020). These standalone entities use structures ranging from roving fee-based consultancies to in-house teams focused on key projects within their government or agency (Mergel 2017).

Today's constituents increasingly expect seamless online services from all sectors, including government (Mergel et al. 2017). To efficiently and effectively deliver these services in the public sector requires a different kind of employee: the technologist. Embedded tech talent is integral to a government's ability to produce successful, fiscally sound technology projects that are user-centered and able to produce desired outcomes (Lerner 2021). To hire this talent, governments must effectively hire, upskill, promote, and retain sought-after tech talent—often in direct competition with more lucrative private sector positions (Mastriacci 2009; Mergel 2017). Recent academic and popular literature largely focus on how to recruit and hire this talent (e.g.

Lerner 2021; Mergel et al. 2021; Wilson and Mergel 2022; U.S. Digital Response 2024). It is less clear how DSTs approach retention and what challenges they may encounter.

This applied research explores retention challenges and strategies for state and local government DSTs. It also offers practical retention recommendations for public sector managers and DST leaders. Its central research questions are:

> **RQ1: What are the most commonly referenced challenges for retention of highly skilled tech talent in local and state government digital services?**
>
> **RQ2: What are the most commonly referenced strategies to retain highly skilled tech talent in local and state government digital services?**

Literature review

This review provides an overview of human resources management and digital talent in the public sector. It first outlines fundamental human resources phenomena, including retention and turnover. It builds upon this foundation by exploring key retention strategies in literature. Finally, it focuses on the motivations held by digital and technical talent in public organizations. Where possible, it draws on literature focusing on digital or information technology (IT) talent in the public sector.

Retention and human resources management

Human resources management (HRM) is a system of practices and processes that constitute the employee experience in an organization (Boselie et al. 2021; Boselie et al. 2005). It encompasses processes such as job design, recruitment, hiring, onboarding, compensation over time, and performance management (Piatak et al. 2020).

Human resources (HR) practices seek to establish and maximize factors like person–job fit (the match of individual needs and skills to job characteristics) and person–organization fit (the match of an individual to organizational values and goals) (Boon et al. 2011). These two types of fit have important roles to play in employee job satisfaction and turnover intention. Job satisfaction and turnover intention, or a conscious desire to leave an organization, are correlates of retention (Hur and Abner 2023; Fleischer and Wanckel 2024). Retention is a core component of the HRM process. It focuses on actions or policies that seek to keep employees—in particular, valued employees—within an organization (Coldwell et al. 2008). Retention is important for public organizations because turnover is costly. Organizations spend significant resources to recruit, hire, and train new employees (Grotto et al. 2017). High levels of turnover can indicate serious organizational issues and contribute to knowledge loss and instability (Busto 2022; Meier and Hicklin 2008). Governments must determine a healthy turnover rate; too little may contribute to excessive rigidity and a lack of innovation (Meier and Hicklin 2008).

Turnover intention is complex. The literature outlines many factors that influence an employee's decision to remain in or leave a position. These range from personal considerations (attitudes and experiences) to environmental circumstances (economic conditions and life or world events) (Grotto et al. 2017). Mitchell et al. explore these diverse themes through the influence of job embeddedness on intention to stay (2001). Job embeddedness is composed of the types of fit previously discussed; links, or relationships within the organization and community; and sacrifice, or what an employee gives up if they leave an organization (Mitchell et al. 2001; Grotto et al. 2017). Governments should understand this variety of factors when structuring retention policies and procedures.

Retention strategies

To operationalize retention learnings, organizations may use a variety of retention strategies. Grotto et al. identify four primary insights derived from research to improve retention in organizations: create a positive work climate, promote fit, encourage leaders to behave in supportive ways, and help employees manage shocks (2017).

Workplace climate contributes to retention when it is underpinned by shared values and beliefs. Climate is largely established by leadership and features traits like "respect, equality, teamwork, and worker involvement" (Grotto et al. 2017). Strong relationships with peers and supervisors reduce turnover and organizational culture can reduce turnover when it matches the needs and values of an employee (Lo 2015).

Fit is integral to job embeddedness and is developed throughout the employee experience. It is established by matching candidate knowledge, skills, abilities, and values to organizational expectations and values (Hur and Abner 2023). Organizations can strengthen fit by meeting job expectations established in the recruitment process, carrying out comprehensive onboarding processes, and helping the employee build relationships with leaders and peers (Grotto et al. 2017).

Strong, supportive leadership strengthens retention in several ways. Leaders can provide workplace support, include employees in decision-making, and bolster organizational commitment (Hur and Abner 2023). They can also mitigate employee shocks through responsive support, such as job changes or poor performance reviews, and proactive support, such as coaching, mentorship, or professional development (Grotto et al. 2017).

Retention can also be affected through incentives, or tangible and intangible benefits, and strategic HRM practices (Lo 2015, 397). Hausknecht et al. outline 12 factors contributing to retention, eight of which can be directly affected by organizational actions and policies: advancement opportunities, extrinsic rewards, flexible work arrangements, investments, job satisfaction, organizational commitment, organizational justice, and organizational prestige (2009). Kim's study of state government IT personnel found promotional opportunities, professional development, management communication practices, compensation satisfaction, and family-friendly policies to be important variables that affect turnover intention (2012).

Digital talent in the public sector

Because retention is part of HRM, it is inextricably tied to processes like recruitment, onboarding, and job design. To keep digital talent in public organizations, leaders must understand why tech workers join the government and how their expectations may differ from other public sector employees.

Mergel et al. (2021) analyze the motivations of 171 software engineers who joined a federal government DST in the late 2010s. During onboarding, each engineer was asked why they decided to join this particular DST. Engineers frequently identified prosocial motives, or those that benefit others, as the primary reason for joining the government. These included a desire to use skills to make a difference for the country and to make improvements in the public interest. Intrinsic motives, or motives centered on enjoyment, autonomy, or personal challenge in the activity itself, were also cited (Amabile 1993). This included the opportunity to work on interesting, difficult, and complex problems (Mergel et al. 2021, 340).

Coombs (2009) focuses on the intention to stay for public sector tech professionals. The author suggests retention improvement strategies including decision-making autonomy, challenging work, and greater contact with external stakeholders (Coombs 2009). The Digital Service Network at Georgetown University's Beeck Center discussed retention challenges at a gathering of Chief Digital Service Officers in 2024. The resulting report identifies core issues including shifting priorities from leadership changes, inflexibility of public sector work, limited promotion or career growth opportunities, burnout from bureaucratic hurdles, and low compensation compared to private sector counterparts (Digital Service Network 2024, 2).

Literature shows there is an opportunity to solidify the common challenges of retaining public sector tech talent, particularly in U.S. state and local governments. There is also a gap in understanding the associated strategies leadership uses to combat these challenges. By connecting existing scholarship on human resources management processes and retention strategies to the unique demands of public sector tech talent, research can provide insights into tangible best practices for digital services leaders.

Research design

This research is exploratory in nature. It seeks to fill the existing gaps in literature by identifying the critical challenges of retaining tech talent on local and state government digital services teams. It is guided by the following key research questions:

> **RQ1: What are the most commonly referenced challenges for retention of highly skilled tech talent in local and state government digital services?**
>
> **RQ2: What are the most commonly referenced strategies to retain highly skilled tech talent in local and state government digital services?**

Data and sampling strategy

This study collects insights and perspectives on the retention of tech talent through semi-structured interviews. The target population in this project is state and local governments who conduct digital or web services work inside the organization. These governments have a demonstrated need to hire and retain highly skilled tech talent and are most representative of the desired sample. The initial sample frame used the Beeck Center Government Digital Service Team Tracker tool to populate a list of state and local governments with digital services teams (Digital Government Hub 2024).

The research employed a multistage sampling approach in which multiple types of sampling were used to identify and recruit subjects for participation in qualitative interviews (Collins et al. 2006). The approach used the sample frame and a set of fixed criteria to evaluate potential respondents for inclusion. Because the sample frame is not a comprehensive list of established digital services teams, subsequent strategies allowed for the generation of a more representative sample.

The sample was purposive with inclusion based on four criteria: team maturity, team activity, geographic region, and level of government (see Table 1). Next, voluntary response sampling was employed to issue a call for participants through direct outreach, professional organizations, and social networks, including Technologists for the Public

Table 1. Purposive sampling factors

Factor	Definition
Team maturity	Number of years since the digital services team was established (0-3, 4-6, 7-plus years)
Team activity	Whether the team is currently active or inactive/defunct
Geographic location	Region of the U.S. (Northeast, South, Midwest, West)
Level of government	City, county, or state government affiliation

Good and LinkedIn. The recruitment email is available in Appendix A; social media recruitment posts are available in Appendix B. Snowball sampling was also used to identify subsequent interview subjects for inclusion in the sample. During interviews, respondents were asked if there were additional individuals who should be interviewed for the study (see Appendix C, interview protocol). Respondents recommended the participation of subject-matter experts from non-governmental organizations that support federal, state, and local governments in attracting and retaining tech talent.n This multistage sampling approach resulted in 13 interview respondents (n=13) (see Table 2).

Analytical strategy

Table 2. Respondents by sector

Sector	**#**
State government	3
County government	4
Municipal government	3
Non-governmental organization	3

The unit of analysis for this research is digital services teams in state and local governments. The dataset includes qualitative data gathered through semi-structured interviews with digital services leaders and subject-matter experts. The research method provides an open-ended framework that allows interviewees to identify key challenges and strategies in retention based on their expertise and organizational, team, and individual dynamics.

As discussed in "Data and sampling strategy," this project gathered data through qualitative interviews. All interviews were conducted one-on-one and were semi-structured with probing follow-ups. The purpose of these interviews was to capture substantive data focused on specific retention challenges, strategies, and success stories. Questions were open-ended and structured to allow for free-flowing conversation. The interview protocol was reviewed and

validated by a federal expert in public sector technology and user interviews. The protocol is available in Appendix B.

Interviews were conducted through online meeting software (i.e. Zoom, Google Meet). Each interview was recorded and transcribed, and hand-written notes were taken during each conversation. Inductive coding was used to analyze the data and identify recurring themes and patterns. The data was iteratively coded over multiple rounds for rigor (Skjott Linneberg and Korsgaard 2019). A codebook was developed for consistency and is available in Appendix E.

Limitations

This research design has several limitations. A portion of respondents were recruited using voluntary sampling. This sampling strategy introduces the possibility of volunteer bias (Remler and Van Ryzin 2015). In this case, volunteers may have stronger opinions on how tech talent retention should be approached in state and local government digital services. To protect against volunteer bias, volunteer respondents' job titles, jurisdictions, and appropriateness for inclusion in the sample were validated against the factors used in the purposive sampling strategy (see Table 1). Data gathered from volunteers was also reviewed for any systemic differences against non-volunteer respondents. Finally, the study is based on the isolated perspectives of digital services leaders and experts. While valuable, individual perspectives are inherently limited and may not be representative of the full scope of retention efforts in an organization.

Findings

The findings of this research are based on coding and analysis of the transcripts from interviews conducted with 13 digital services team leaders and subject-matter experts in the field.

The findings are organized by the key research questions. After re-coding and consolidating themes and sub-themes, four primary themes emerged in each category:

- **Retention factors:** Job design, organizational friction, organizational supports, team environment
- **Retention strategies:** Job design, organizational supports, team environment, work selection

The most commonly identified challenges and strategies, organized by sub-themes and their associated primary theme, are identified in Table 3.

Table 3: Frequencies of retention challenges and strategies by theme and sub-theme

Challenges			**Strategies**		
Theme	**Sub-theme**	**Freq.**	**Theme**	**Sub-theme**	**Freq.**
Job design	Job classifications	13	Job design	Growth pathways	15
Job design	Growth	10	Team environment	Leadership practices	14
Job design	Compensation	10	Organizational supports	Leadership champion	11
Organizational supports	HR (organizational)	10	Work selection	Visibility of impact	10
Organizational friction	Burnout	7	Team environment	Team culture	9

RQ1: What are the most commonly referenced challenges for retention of highly skilled tech talent in local and state government digital services?

Challenge: Human resources and the human resource management process

The primary challenges described by interview respondents relate to the human resources management process: of the five most common challenges named, four are under the traditional purview of HR in government.

The leading sub-theme identified as a retention challenge by respondents is a lack of appropriate job classification for employees. Job classification is a process by which responsibilities, compensation, and career pathways are established within an organization. It relies on job descriptions to group jobs, create structure, and set associated pay grades (Van Vulpen n.d.). Most digital services teams interviewed for this research hire and manage talent within HR systems that lack proper classifications for tech workers. One leader described being forced to hire user experience researchers using business analyst job classifications (CG4)[1]. This disconnect between employee and formal classification may lead to role ambiguity, which occurs when a position lacks a well-articulated function and performance expectations (Hassan 2013).

> *"Our HR is not strong in hiring modern technology skill sets. ... a lot of it has to do with the fact that for most modern technology skill sets, we do not have union job classifications that fit them. So HR is expert in doing that and we need to do various paperwork dances to make it possible to hire people who don't fit against an existing job class, which is basically almost everyone."* (MG1)

Inadequate growth opportunities are closely linked to issues of job classification. Leaders described multiple types of growth, including promotions, salary increases, and new responsibilities. Employees may be hired into a retrofitted job classification with no associated career pathway (MG1, SG2). Other organizations are bogged down by extensive backlogs of promotion and raise requests (CG1, MG1, MG3).

> *"We cannot give any raises or promotions and we've been stuck for years. We have a bunch of raises sitting in a queue and nothing has been approved. I don't think anything's ever gonna be approved. ... It just creates resentment."* (CG1)

[1] Interview respondents are cited using unique identifiers. The full index of respondents is available in Appendix D.

An additional piece of the HRM puzzle is compensation and rewards. Issues of compensation are among the most widely acknowledged when recruiting public sector tech talent (Mergel et al. 2021). Nine respondents identified compensation as an issue, but most comments were perfunctory. As one leader said, "You're not competing on compensation," (SG3). The aim of salaries was not to match lucrative private sector positions, but to stay reasonably competitive.

> *"Compensation is going to continue to be hard. We just lost a developer who got an offer for double the money and better benefits. And it was like, 'Congratulations, we love you. Have the best time, send postcards.'"* (SG2)

A final recurring theme in interviews is frustration with government human resources (HR) departments. Seven respondents felt insufficient support from organizational HR. While HR employees may have years of experience in the public sector, respondents felt their HR team was not useful in trying to recruit and retain modern knowledge workers. This aligns with previous research on structural barriers to digital government, which identified financial and human resources issues as a prominent challenge for new government teams (Wilson and Mergel 2022). Respondents identified a "cultural mismatch" between typical government HR practices and tech employees' expectations, which include streamlined hiring practices, comprehensive onboarding, and regular salary increases (MG1, SG1, SME2). Other respondents didn't fault their specific HR team, instead viewing these challenges as systemic (CG1).

> *"HR, just like procurement, is driven by such a huge set of rules and regulations that they are very fear-based. They come from a high compliance-based approach. It's very transactional. And so it's really hard to pull them out into a strategic place." (SME1)*

Challenge: Burnout

The second core challenge identified by respondents is issues related to burnout. Tech workers arriving from the private sector are often accustomed to a specific way of working: fast, agile projects, delivered iteratively (Mergel 2017). These expectations are stymied in government. Bureaucratic governmental systems are described as onerous, resistant to change, and littered with red tape (SME1, SG1, SME2). Burnout can become an insurmountable challenge when other employee needs are not met. If an employee feels burned out on the work and is not receiving appropriate recognition or compensation, an employer's ability to retain that individual is slim (MG1).

> *"I think the bureaucracy and the slow pace really can wear on people, I would say uniquely in the tech space. ... I think there's a burnout rate of people that are willing to continuously fight the red tape, fight the bureaucracy, [and] work with so many constraints. It's not for everyone."* (SG1)

RQ2: What are the most commonly referenced strategies to retain highly skilled tech talent in local and state government digital services?

Strategies: Human resources and the human resource management process

To work around difficult HRM processes, interview respondents described implementing non-traditional strategies in lieu of formal HRM methods. For example, most teams lack positions with adequate growth pathways. Leaders instead describe offering employees the opportunity to work on progressively complex projects or providing the latitude to work on projects that require non-technical skills (MG3, SG3). Other respondents discussed methods of growing supervisory skills like beginning an annual internship program or providing mentorship

(CG4, MG2, MG3). One leader discussed creating an informal process within an organization when adequate career pathways are not present. This respondent pulls together a group of people "at relatively high [job] levels" in the organization to review a list of employees who may be due for promotions, salary increases, or increased job responsibilities (MG3). Their goal is to find creative, non-traditional ways to progress employees outside of the structure of career ladders.

Multiple respondents also spoke about the power of leadership champions at the highest levels of their organization. Two respondents felt a top-down strategy was one of the few viable methods of breaking through HR-induced roadblocks in an organization (SME1, SME3).

Strategies: Burnout

To mitigate challenges related to burnout, respondents identified two primary strategies: intentional leadership practices and visibility of work impact. Respondents described the importance of acting as a supportive manager and cultivating a positive team culture (SG1, SG2, MG1, MG3, SME1, SME3). One respondent sees their role as "an umbrella to the team," (SG2). This means serving as an in-person conduit to build relationships, clear blockers, and ease the team's path forward. Leaders also set up the team for success through work constraints. This includes selecting projects that meet a certain set of parameters and appropriately scoping projects to understand the effort and resources required for completion (MG1, SG2, SG3).

Because the public service mission of digital service teams in government is important, it may be valuable to provide visibility of that impact to employees (Mergel et al. 2021). There is power in seeing the real-world impact of work projects (SG3, SME1, SME3). This means leaders must help teams deliver on the promises of their work and provide opportunities to connect with that work. It also requires leaders and team members to be storytellers who shape and share the

narrative of their efforts and the value delivered (MG2). Other participants cautioned that the prosocial motivation of the work has limitations: “You have to have other retention arguments beyond that,” (MG3). They added that meaningful work could not supplant delivering basic HR functions and services to employees.

Natural churn

Nine respondents in this project were emphatic that they do not expect to retain all talent long-term. Indeed, most leaders stated that too much retention would be bad for team culture and goals. The goal, as one respondent stated, was to find “the sweet spot” for retention: the amount of time when an employee has been around long enough to learn how to operate in a complex bureaucracy, and where the employer’s investment in their onboarding has paid off (SG3).

> *“I actually think some amount of churn is a good thing. Getting new blood in, new thinking, new ideas. So we're not trying to push anybody out. But when they do leave for one reason or another, it's actually an opportunity to renew the team with more people with new ideas, new feelings.”* (CG2)

Four leaders also identified a feeling of responsibility to grow and prepare team members for future roles, even if they were not with their organization.

> *“I hire very good people, and I don't expect them to stay forever. As a manager, I take it as a compliment when my folks get higher paying, higher level roles, whether it's with me or someone else elsewhere, at a different institution. That's what you're supposed to be doing as a manager, I think, is growing people and not holding on to them for dear life for their entire career.”* (MG3)

The findings from this research largely align with previous literature. A lack of appropriate job classifications and growth pathways may hamper employee fit with a job and an

organization, which has ramifications for job embeddedness (Boon et al. 2011; Meier and Hicklin 2008). Some of these challenges can be offset with a focus on intentional leadership practices, positive workplace culture, and visibility into the impact of work (Grotto et al. 2017; Mergel et al. 2021).

Recommendations

The following recommendations draw on interviews and public administration literature. Retention requires a whole-organization approach, including contributions from organizational leadership and digital services team leaders. Recommendations are therefore presented in two parts: recommendations for state and local government managers and executives, and recommendations for digital services team leaders.

Recommendations for managers and executives

Recommendation 1. Develop accurate job classifications and descriptions for tech positions

> *"It's like [job classifications] just haven't gotten to the right desk yet. …Recognizing that that is a true barrier and being open to a way to move through it would be the way the county could best help me right now."* (CG4)

Central to the HRM challenges described by respondents was a lack of appropriate job classifications and associated growth pathways for employees. Government managers and executives should prioritize the need to establish or update core technology roles within job classification and compensation structures. This effort should be carried out in working groups that include HR, IT, and digital services teams. One recommended tool for classifications is conducting job analyses, which define the work, activities, skills, and competencies performed in

a job (Clifford 1994). Job classifications should provide clear and descriptive job titles, roles, responsibilities, and objectives (Hur and Abner 2023; Boon et al. 2011). Classification structures should include defined career pathways to provide advancement and promotion opportunities necessary for retention (Kim 2005; Kim 2012). Perhaps most importantly, these classifications should not be treated as static. Technology advances rapidly and classifications must reflect this continuous evolution.

Modern technology is an important part of how governments facilitate the creation of public value (Cordella and Bonina 2012). Governments need adequate talent to procure, build, and maintain technology efficiently and effectively (Mergel 2017). Outdated and onerous HRM practices, such as failing classification systems, will sharply limit the ability of government teams to attract and retain the necessary talent for this work.

Recommendation 2. Support flexible and creative approaches by digital services teams

> *"Be clear about what the constraints are… and then [let teams] do their work. Really, I know that sounds overly simplistic, but it is just like, 'You're trying to do this. Here's the rules that you're going to have to follow. Be creative. You know what the constraints are. What can you do knowing this?' And then we'll let them run."* (SME1)

Seven respondents said their organizations could best support their efforts by embracing creativity and tolerance within a system of constraints. Digital services teams may perceive structural barriers as more difficult to overcome (Wilson and Mergel 2022). By championing the work of digital services teams, executives and managers provide cover and legitimacy for these approaches (Mergel 2017; Leybourn 2013; Hur and Abner 2023). When these organizational leaders establish an articulated vision and a roadmap for getting there, they provide an obvious path forward that employees may use to guide their priorities. Setting these clear expectations

allows teams to work within or around structural barriers like hiring processes and resource limitations (Wilson and Mergel 2022). Digital services teams exist to introduce new, agile approaches and produce results in rigid and legalistic bureaucracies. In these contexts, there is a natural tension between competing public service values like lawfulness and innovativeness. Governmental leaders must help teams find a balance between tensions to better serve the needs of the public (Molina and McKeown 2018).

Recommendations for digital services leaders

Recommendation 3. Build outcomes-oriented relationships with HR allies and teams

> *"Government HR teams operate within dense, outdated policies. Their willingness to innovate is constrained by fear of policy violations. When a strong leader, often outside HR, empowers them to prioritize internal customers' needs and experiment with new approaches, meaningful change becomes possible."* (SME3)

A core theme of this research is specific retention challenges related to government HR. In contrast, respondents who had collaborative partnerships with department HR staff consistently described a feeling of support from their government's HR teams (CG2)(SG2). These positive relationships are core to a strong employee experience. To start these conversations, digital services team leaders may find it useful to adopt an outcomes-oriented approach. In this context, "outcomes" is used less formally than in performance management frameworks like New Public Management (Gruening 2001). An orientation toward outcomes begins by communicating hoped-for goals or results from the relationship. This encourages all parties to establish a shared vision rather than immediately focusing on impediments and problems. Digital services leaders can refer to industry tools like the U.S. Digital Response Talent Toolkit to understand best practices for coordinating with government HR teams (2024).

Government observers have long identified a need for U.S. government organizations to move beyond a rigid and compliance-based approach to HR (Partnership for Public Service 2021). Champions in government leadership can also help open avenues for more positive approaches that balance inherent organizational tensions (see Recommendation 2).

> *"I've worked other places where it is not like that, where HR does all of that and you are handed what they think are good candidates. We get all the candidates. We do our own filtering. Nobody filters for us. … I would much rather sort through that than to get stuff where HR is deciding who is or isn't qualified for your job."* (CG2)

Recommendation 4. Provide autonomous, challenging work and visibility of impact

Burnout is a consistent challenge identified by digital services team leaders (Digital Service Network 2024). This research confirms that finding (MG1, SME1, SME2, SG1, SG2). To alleviate issues related to burnout, digital services team leaders should consider retention mechanisms under their team's control. This includes projects and work assignments. For example, several respondents described selecting projects that align with the team's mission and values, or constraining work to prevent burnout (SG3, MG1, SG2). Interesting, challenging work; problem-solving; and new technologies can support intrinsically motivated behavior (Mergel et al. 2021; Coombs 2009). Giving team members autonomy and discretion over their work is closely linked with intrinsic motivation and job satisfaction (Fleisher and Wanckel 2023; Mergel et al. 2021).

Team leaders should also provide visibility into the real-world impact of work to support the prosocial motivations of employees. This may include connecting with other governmental teams, meeting constituents, or effective storytelling around outcomes. Leaders can celebrate "wins" and showcase positive outcomes with broader audiences (Mergel 2017). Storytelling and

policies should continually highlight the degree and breadth of the impact their work supports (Mergel et al. 2021). These actions align with emerging public service values of engagement and empathy, which seek to connect with the public and generate human-centered and human-driven outcomes (Meyer et al. 2022). Developing this visibility may support deeper engagement and satisfaction with work activities and the organization more broadly (Hur and Abner 2023; Mastriacci 2009, 33).

Conclusion

In state and local governments, technology is no longer the exclusive purview of IT teams. It is the backbone of how public sector organizations carry out internal operations and services for constituents. Integral to the success of these efforts is sustainable capacity to execute, support, and maintain critical technology projects. This capacity can only be built through an empowered workforce with technical talent capable of meeting the needs of a technology-driven public.

Acknowledgments

This research was only possible because of the civic tech community. Thank you to the many members who generously shared knowledge and provided connections to support the project. More importantly, thank you for championing the work—and one another.

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Appendix A
Recruitment email

Dear (name),

I hope this message finds you well. My name is Makayla Hipke and I am a Master of Public Administration student at the University of North Carolina at Chapel Hill. I am also a full-time technologist in the federal government.

I am currently conducting applied research on retention of tech talent in state and local government digital services. **I am reaching out to request an interview with you in support of this project.** My work is focused on the perspective of digital team leaders, and your insights would be invaluable to this work. This research will be used to fulfill graduation requirements and **is not intended for publication.**

This interview will require no more than 45 minutes and will be conducted over Zoom. The interview will be recorded for accuracy, but you will remain anonymous in the analysis. I am happy to share the findings of this work with you upon completion.

To schedule an interview at a time that is convenient for you, please use this link to select a slot: (Google Calendar link). If none of these times work, please let me know. Thank you for your consideration. I look forward to hearing from you.

Best,

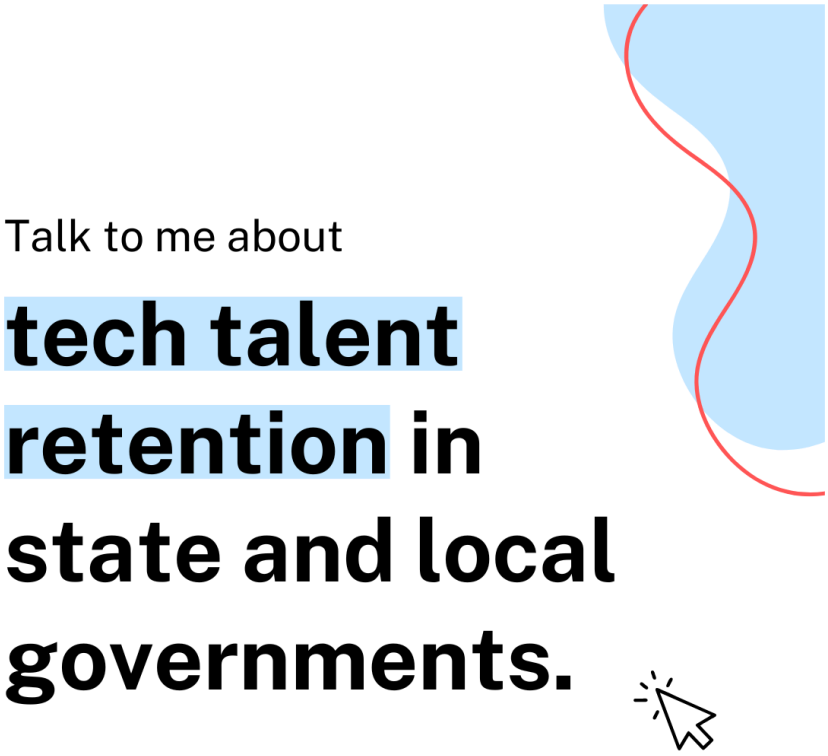
Makayla Hipke
mhipke@unc.edu | LinkedIn
UNC Master of Public Administration

Appendix B
Call for participants

📣 Seeking digital services and public sector technology team leaders in state and local government!

My final research project studies the retention of tech talent in state and local government. I'm conducting brief (30-40 minute) interviews with digital team leaders to understand specific retention challenges and effective strategies they've identified. If this sounds like you, let's connect! You can email me, drop a comment below, or sign up directly on my Google calendar.

🙋‍♀️ Sign up: https://calendar.app.google/2uK1sPfMmd5UttkV8
✉️ Email me: mhipke@unc.edu
👋 About me: I'm Makayla, a Master of Public Administration student at the University of North Carolina at Chapel Hill. I am also a full-time technologist in the federal government.



Appendix C
Interview protocols

Introductory script

Thank you for participating in this interview today. Your contributions are very important to my research project and I appreciate your time.

My name is Makayla Hipke and I will facilitate this conversation on retention of tech talent in state and local government digital services. The purpose of this interview is to capture your perspective on retention challenges and associated strategies to address those challenges. Before we begin, I have a couple of brief reminders.

First, our conversation will be recorded for research purposes. I will also take hand-written notes during this interview. All direct quotes used in the paper will remain anonymous. I will notify you when I begin recording. You may ask to pause or stop the recording at any time. Do you consent to being recorded for this interview?

Second, there are no right or wrong answers. Your honest perspective is important and valuable. If you have any questions or concerns during the interview, don't hesitate to ask.

I will now begin recording.

Interview questions: Leaders or former leaders
Optional follow-up themes in italics.

To begin, please tell me your name, your job title, and the jurisdiction you serve.

- Tell me a bit about your organization's digital service team.
    - *Responsibilities or key goals?*
    - *Number and type of employees?*

Part I: Finding talent

- How does your organization approach staffing for tech talent?
    - *Driven by them? HR? Organizational leadership?*

- In your opinion, what attracts candidates to this work?

Part II: Retention

- What factors do you feel contribute to team members staying in this work?

- From your perspective, what are the biggest challenges your team faces in retaining digital talent?
    - *Can you share an example of that?*
    - *Is your approach to retention as a team leader different from your organization's approach?*

- Are the retention challenges your team faces different from the rest of your organization?

Part III: Strategies

- What strategies have you used to counteract these challenges?
    - *Are any of these strategies unique to your team?*

- From your perspective, which of these has been most successful?
    - *What does that look like in practice?*

- Which have been less successful?

Part IV: Closing

- How do you feel your organization can best support your team in retention of digital talent?
    - *HR?*
    - *Leadership?*
    - *If you had a magic wand and could do anything related to talent/retention, what would you do?*

- What are the implications of talent retention for your team's goals?
    - *Your organization's digital transformation goals?*

- Is there anything else you'd like to add that I did not ask about today?
- As a final question, is there anyone else you think I should talk to for this project?

Thank you so much for your time. Do you have any final questions for me?

Interview questions: Subject matter experts
Optional follow-up themes in italics.

To begin, please tell me your name, your job title, and the organization you work in.

- Tell me a bit about your professional expertise related to tech talent in government.

Part I: Finding talent

- Based on your experiences working in or with governments, what attracts candidates to this work?

Part II: Retention

- What factors do you feel contribute to tech experts staying in government?

- From your perspective, what are the biggest challenges governments face in retaining digital talent?
    - *Can you share an example of that?*

- Are the retention challenges that digital services teams face generally different from the rest of their organizations?

Part III: Strategies

- What strategies have you seen used to counteract these challenges?
    - *Are any of these strategies unique to their teams?*

- From your perspective, which of these has been most successful?
    - *What does that look like in practice?*

- Which have been less successful?

Part IV: Closing

- How do you feel governments can best support their digital services team in retention of tech talent?
    - *HR?*
    - *Leadership?*
    - *If you had a magic wand and could do anything related to talent/retention, what would you do?*

- What are the implications of talent retention for the work of digital services teams?
    - *Government-wide digital transformation goals?*

- Is there anything else you'd like to add that I did not ask about today?

- As a final question, is there anyone else you think I should talk to for this project?

[stop recording]

Thank you so much for your time. Do you have any final questions for me?

Appendix D
Overview of interview respondents

ID	Role level	Level of government	Organization type
SG1	Director	State	Government
CG1	Executive	County	Government
CG2	Executive	County	Government
CG3	Deputy	County	Government
SME1	Subject-matter expert, former federal and state employee	n/a	Consultancy
MG1	Executive	Municipal	Government
SME2	Subject-matter expert, former federal employee	n/a	501(c)6
MG2	Former deputy	Municipal	Government
SG2	Executive	State	Government
SG3	Deputy	State	Government
MG3	Deputy	Municipal	Government
SME3	Subject-matter expert, former federal employee	n/a	501(c)3
CG4	Director	County	Government
MG4	Director	Municipal	Government

Key:
SG: State government
CG: County government
MG: Municipal government
SME: Subject-matter expert